MINUTE ITEM
This Calendar Item No. C06 was approved as Minute Item No. 06 by the California State Lands Commission by a vote of 3 to 0 at its 12-14-06 meeting.

CALENDAR ITEM
C06

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12/14/06
PRC 8730 W 26042
R. Barham

APPROVAL OF A MAP FILED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION PURSUANT TO SECTION 101.5 OF THE STREETS AND HIGHWAYS CODE

PARTY:

California Department of Transportation
P.O. Box 3700
Eureka, CA 95502

AREA, LAND TYPE, AND LOCATION:

A 0.30 acre parcel, more or less, of sovereign lands in the bed of the Mad River, between the towns of Arcata and McKinleyville, Humboldt County.

PROPOSED USE:

For highway purposes pursuant to section 101.5 of the Streets and Highways Code, specifically the removal of the southbound and northbound bridges, and the construction, use, and maintenance of the new northbound and southbound bridges on State Route 101 crossing the bed of the Mad River.

LENGTH OF USE:

Continuous use plus one year.

OTHER PERTINENT INFORMATION:

1. Applicant has a right to use the uplands adjoining the lease premises.

2. The existing State Route 101 Mad River bridge crossing includes the northbound bridge, which is a single lane 11-foot wide span with a one-foot shoulder and was constructed in 1929. The southbound span of the bridge is a 12-foot wide single lane bridge with two-foot shoulders and was constructed in 1958. The California Department of Transportation (Caltrans) has determined that both bridges are structurally deficient and that neither the northbound nor the southbound bridges meet current scour, seismic or geometric guidelines and have excessive erosion at their pier footings. The Statewide Seismic Safety Program mandated by the

Governor and Legislature is a program used to assess and identify the seismic safety needs of the state highway system and provides for improvements to the system where necessary. The evaluation of the bridges concluded that they must be upgraded or replaced to meet current seismic standards. The purpose of the project is to provide earthquake-resistant bridges by designing new concrete bridges capable of resisting a maximum credible earthquake. The controlling fault for this project is the San Andreas Fault capable of generating a maximum credible earthquake of moment magnitude of 8.0 on the Richter Scale.

3. Caltrans proposes to begin construction on the new two-lane southbound bridge and upon its completion, will remove the old southbound bridge. The new two-lane northbound bridge will then be constructed followed by the removal of the old northbound bridge. Both bridge structures will have two 12-foot lane widths, a five-foot inside shoulder and a ten-foot outside shoulder. The new northbound structure would also include an additional eight-foot pedestrian walkway. A work window of June 16 to October 14 will be utilized for all in-stream project activities. Construction of the project is expected to take four years.

4. The scope of the project includes construction of sedimentation basins, dewatering, removal of existing bridge piers and abutments and construction of new piers, abutments, trestles, and bridge superstructures. Other work includes realigning, extending, or replacing ditches/culverts and installing new bridge approach metal beam guardrails, cofferdams, falsework, and placement of rock slope protection.

5. On February 15, 2005, Commission staff issued a letter of non-objection authorizing Caltrans to perform exploratory drilling of one or two boreholes in the bed of the river to be used by Caltrans in determining the best location for the bridge support system.

6. Caltrans filed the map for the proposed project pursuant to section 101.5 of the Streets and Highways Code. Pursuant to the Code, Caltrans is required to determine the value of the proposed right of way and make a deposit in the General Fund, which is credited to the Resources Protection Account.

7. A Mitigated Negative Declaration was prepared and adopted for this project by the California Department of Transportation. The California State Lands Commission's staff has reviewed such document. A

Mitigation Monitoring Program was adopted by the California Department of Transportation.

8. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code sections 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

State of California Department of Fish and Game
United States Army Corps of Engineers
National Oceanic and Atmospheric Administration Fisheries Service
California Coastal Commission
California Water Quality Control Board, North Coast Region
County of Humboldt

EXHIBITS:

A. Site and Location Map
B-1 and B-2. Mitigation Monitoring Plan

RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

CEQA FINDING:

FIND THAT THE MITIGATED NEGATIVE DECLARATION AND A MITIGATION MONITORING PROGRAM WERE PREPARED AND ADOPTED FOR THIS PROJECT BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

ADOPT THE MITIGATION MONITORING PROGRAM, AS CONTAINED IN THE ENVIRONMENTAL DOCUMENT, ATTACHED HERETO.

SIGNIFICANT LANDS INVENTORY FINDING:

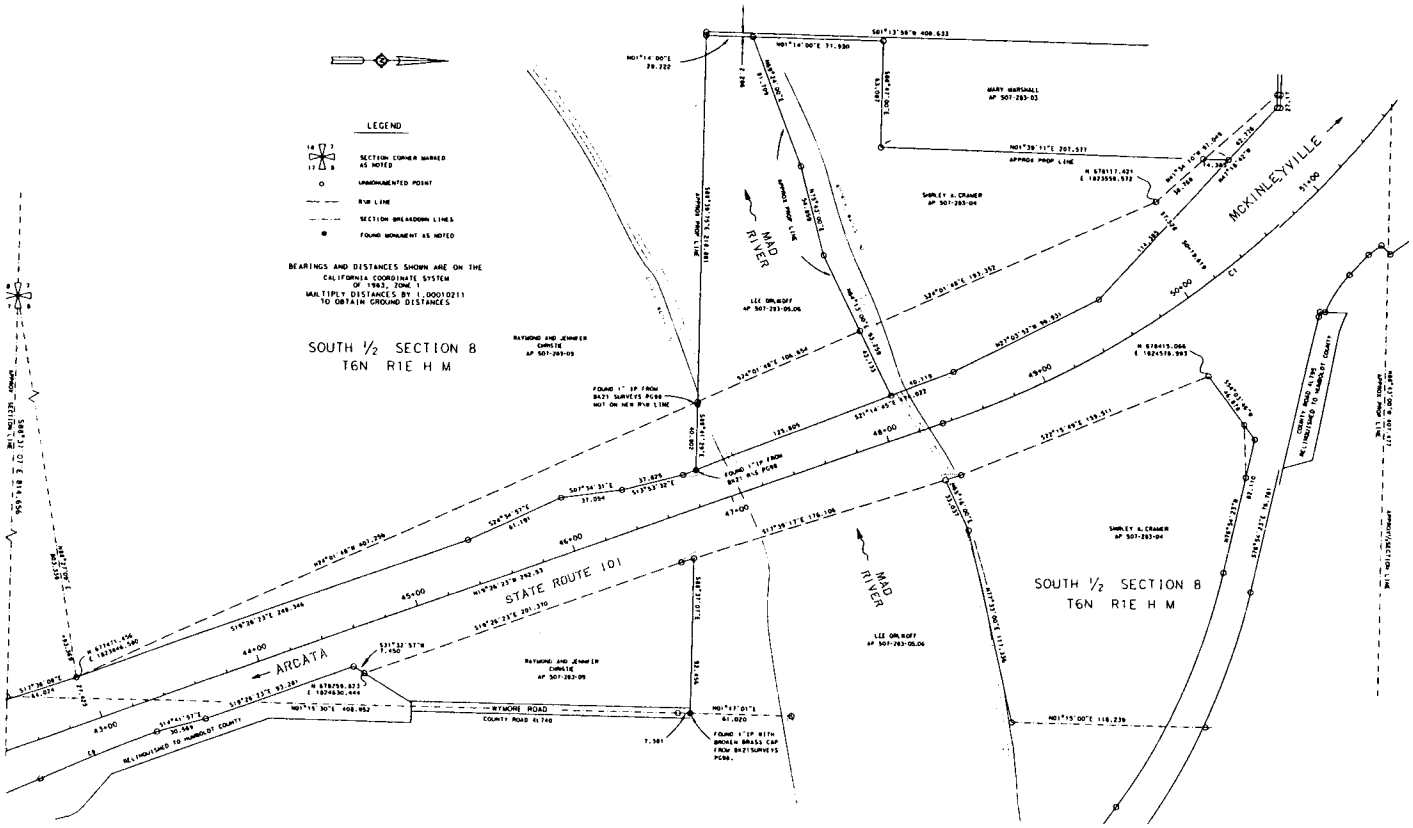
FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED BY THE COMMISSION FOR THE LAND PURSUANT TO PUBLIC RESOURCES CODE SECTIONS 6370, ET SEQ.

AUTHORIZATION:

APPROVE A MAP SUBMITTED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION PURSUANT TO SECTION 101.5 OF THE STREETS AND HIGHWAYS CODE, FOR CONTINUOUS USE PLUS ONE YEAR, FOR THE REMOVAL OF THE EXISTING SOUTHBOUND AND NORTHBOUND BRIDGES AND FOR THE CONSTRUCTION, USE AND MAINTENANCE OF THE NEW SOUTHBOUND AND NORTHBOUND BRIDGES CROSSING THE MAD RIVER ON LANDS SHOWN ON EXHIBIT A ATTACHED AND BY THIS REFERENCE MADE A PART HEREOF.

NO SCALE

SITE MAP



State Route 101 Rights of Way over Mad River

NO SCALE

LOCATION MAP

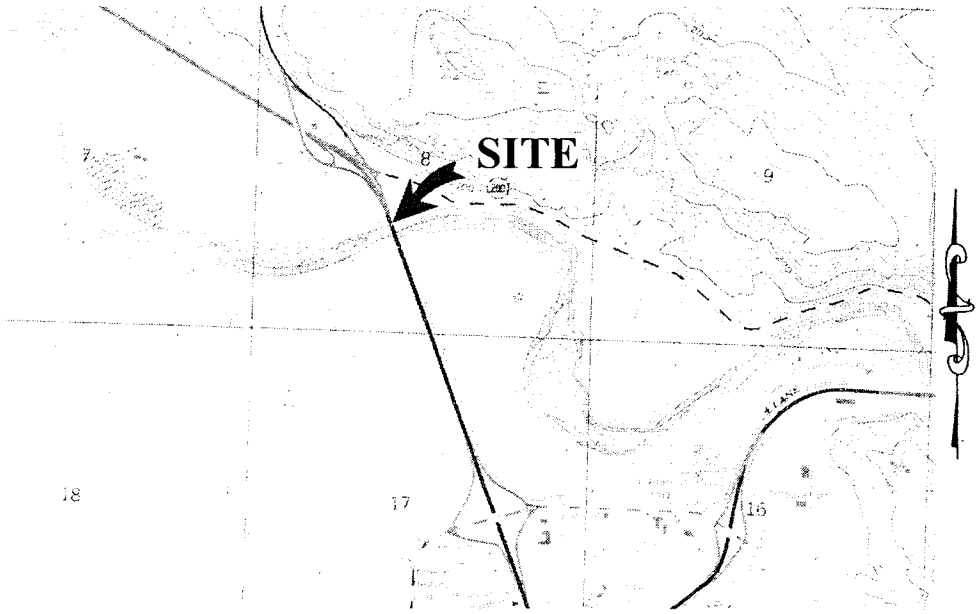


EXHIBIT A
W26042

CALTRANS
Mad River Bridges
General Lease Public Agency Use
Humboldt County

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by Lessee or other parties, and is not intended to be, nor shall it be construed as a waiver or limitation of any state interest in the subject or any other property.

CALENDAR PAGE

MINUTE PAGE

DWC 04-27-2006

PURPOSE OF COMPENSATORY MITIGATION PROJECT

Proposed construction of the Mad River Bridges Replacement Project is anticipated to require a four-year construction scenario and will result in permanent impacts to approximately 0.05 acres of United States Army Corps of Engineers (USACE) jurisdictional wetland. Also, up to 0.6 acres of temporary impacts to USACE jurisdictional other waters of the United States are expected in each construction year. Further, temporary and permanent impacts to additional coastal wetlands (less than three parameter wetland) of up to 0.7 acres are anticipated. A Summary Wetland Report describing wetlands types and impacts was previously prepared for the project (September, 2005).

Mitigation to compensate for project impacts to wetlands will be needed. Wetland mitigation will be accomplished both on and off-site. Documents describing the conceptual off-site wetland mitigation and the final off-site wetland mitigation will be authored separate from this report. This report, which follows the USACE Mitigation and Monitoring Proposal Guidelines (San Francisco District, 2004), fully describes the on-site portion of the Mad River Bridges wetland mitigation package.

Wetlands will be created on-site to mitigate for wetlands affected by the project in Construction Year 4. On-site wetland creation will occur in the same year that permanent impacts to USACE wetlands occur, thereby avoiding temporal impacts to wetland function and value. Additional coastal wetlands affected in Year 4 will also be mitigated on-site.

Riparian vegetation along the river (coastal wetland) affected by project construction in Years 1-3 will be mitigated for at an off-site location. It is anticipated that off-site wetland mitigation for the Mad River Bridges project will be constructed either in advance of project construction or coinciding with it; also avoiding temporal impacts.

The purpose of this plan is to create 0.2 acres of wetland habitat at the Mad River Bridges site. Constructed habitat will consist of emergent wetland, wet meadow, and riparian habitat, which will be maintained as a mitigation-site, in perpetuity, by the California Department of Transportation.

Additionally, while coastal wetland (riparian vegetation along the river) will be mitigated off-site, 0.5 acres of riparian habitat will be re-vegetated on-site post-project construction. The re-vegetation will occur at the four bridge quadrants as a term and condition of the project's Incidental Take Statement issued by NOAA Fisheries.

PROJECT REQUIRING MITIGATION

Location

The Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) are proposing replacement of the Mad River Bridges on State Route 101 in Humboldt County. The proposed project is located between the towns of Arcata and McKinleyville on State Route (SR) 101, between postmiles (PM) 89.1/90.4 (see Exhibits 1 and 2, pages 18-19).

As described in the Summary Wetland Report, Caltrans performed a wetland delineation within the project study area. Verification of the Caltrans mapped jurisdictional boundaries has been received from the USACE (File #283960N). (See Exhibits 3 and 4 – Wetland Mapping and USACE Verification Mapping.)

Project Summary

Caltrans has determined that the Mad River Bridges are structurally deficient in that neither the northbound nor southbound bridge meet current scour, seismic or geometric guidelines. Replacement of the structures is proposed to prevent further degradation of the bridges and to increase highway safety in the area. In addition to replacement of the bridges, modifications will be required to on ramps and off ramps. The project site is an area of approximately 20 acres. The project is expected to begin construction in 2008; a four-year construction scenario is anticipated.

The project requires construction within the Mad River itself, as well as adjacent wetlands and uplands. Impacts to jurisdictional wetlands have previously been quantified in the Summary Wetland Report. Due to the project's proposed four-year construction scenario, impacts to wetlands have been tabulated by year of impact in an effort to evaluate potential temporal impacts. Tables 1 and 2 (pages 6-7) summarize wetland impacts by year of construction.

No mitigation is proposed for permanent project impacts to USACE other waters of the United States. In construction Year 1, as the existing southbound bridge pier footings are removed, a backwater scour pool (Water C – an area of 0.02 acres; see Exhibit 3) will be lost. However, the proposed new bridge structures will result in a decrease of permanent fill within the river of 0.01 acre (versus the existing structures). Therefore, the net expected permanent loss to waters of the US is 0.01 acre. Also, a scour feature to provide holding habitat for listed salmonid species will be constructed just downstream of the proposed bridges as a first order of business in project construction.

No mitigation is proposed for temporary project impacts to other waters of the US. Unmapped impacts to waters of the US, of up to 0.6 acres, are likely to occur in each

year of project construction. These impacts are associated with channel dewatering for construction (within coffer dams), temporary construction access within the river bar, a possible low water crossing and a proposed sediment basin.

Table 1. Wetland Impacts in Construction Years 1 – 3 (in acres).

Identifier (see Exhibit 3)	Temporary Impact	Permanent Impact
USACE Jurisdictional Other Waters		
Water C		0.02 (area of backwater scour pool at existing pier footing)
Unmapped impacts to waters (anticipated to occur annually)	0.6 (150'x 216' [linear max. of in-channel work x average width at ordinary high water])	
Total	**0.6**	**0.01***
Additional Coastal (<3 parameter) Wetlands		
Coastal wet B		0.003
Coastal wet I		0.18
Coastal wet L		0.16
Coastal wet N		0.013
Coastal wet C	0.006	
Coastal wet J	0.04	
Coastal wet K	0.08	
Coastal wet M	0.02	
Total	**0.15**	**0.36**

* The proposed new bridge structures will result in a decrease of permanent fill within the river of 0.01 acre (versus the existing structures). Therefore, the net expected permanent loss to waters of the US is 0.01 acre. No mitigation is proposed.

Site Characteristics

The project site is within the coastal plain, adjacent to the marine terraces of McKinleyville. The Mad River bridges span the Mad River approximately two miles upstream of the river's terminus at the Pacific Ocean. In this section of rural highway, much of the landscape has been developed for agriculture and residential housing, with inclusions of commercial land use. The greater project vicinity has been extensively manipulated, such that little to no natural vegetation remains. Within the project area, the existing plant community is largely comprised of actively managed grazing lands.

Table 2. Wetland Impacts in Construction Year 4 (in acres).

Identifier (see Exhibit 3)	Temporary Impact	Permanent Impact
USACE Jurisdiction Wetlands and Waters		
Wetland B		0.05
Wetland C	0.003	
Unmapped impacts to waters	0.6 (150'x 216' [linear max. of in-channel work x average width at ordinary high water])	
Total	**0.6**	**0.05**
Additional Coastal (<3 parameter) Wetlands		
Coastal wet E		0.14
Coastal wet F	0.005	
Coastal wet G	0.003	
Total	**0.01**	**0.14**

Natural waters, which occur on-site, outside the Mad River itself, originate in the northeast quadrant, in the McKinleyville bluff. These waters seep out of the hill slope and are then picked up in roadside ditches running along Central Avenue and Route 200. The waters are then carried via corrugated metal pipes (CMP's) under Central

Avenue and Route 200, to outlet south of the Route 101/Route 200 intersection. Because topography is flat, emergent wetlands have formed within engineered ditches at the CMP outlets. (Emergent wetlands at the site are classified by the Cowardin system as Riverine Lower Perennial Emergent Persistent.) The emergent wetlands are dominated by *Rorippa nasturtium-aquaticum* and *Scirpus microcarpus*. Adjacent to the ditches is a less-than-three-parameter coastal wetland (wet meadow), which exhibits exotic vegetation as the dominant species (introduced grasses and *Iris pseudacorus*). Waters exiting the emergent wetlands are conveyed in a straight u-shaped ditch to outlet onto the north bank of the Mad River.

Being within the highway right of way, the majority of emergent wetland and wet meadow within the project footprint are subject to a mowing maintenance regime. However, both wetland types provide for the following functions and values: flood flow attenuation and storage; sediment retention and water filtration benefits; ground water replenishment, and beneficial habitats for birds and small mammals.

A riparian buffer (coastal wetland) exists adjacent to the river, which is predominately vegetated by Pacific willow (*Salix lucida* ssp. *lasiandra)* and red alder (*Alnus rubra*). A few mature black cottonwood trees (*Populus balsamifera* ssp. *trichocarpa)* exist upstream of the existing bridges, on the northeast bank. The riparian buffer is a component of designated critical habitat for the Southern Oregon/Northern California Coast ESU coho (*Oncorhynchus kisutch*), as well as the California Coastal ESU Chinook (*O. tshawytscha*) and Northern California ESU steelhead (*O. mykiss*).

MITIGATION DESIGN

To satisfy mitigation requirements for impacts to USACE wetlands and additional coastal wetlands affected in Year 4 of project construction, the project proposes to restore fully functional, self-sustaining wetland within the project footprint, at the northeast project quadrant, adjacent to existing waters mapped as Water A (see Exhibit 5, Wetland Creation Layout). Construction of the new bridges will be just west of the existing bridge structures, requiring a new alignment of roadway at the bridge on and off ramps. In the northeast project quadrant, portions of the old alignment will be obliterated and approximately 11,000 cubic yards of fill material will be excavated and removed. The existing fill slope is dominated by non-native species (Himalayan blackberry [*Rubus discolor*] and Monterey pine [*Pinus radiata]*). Excavation of the fill slope will facilitate a footprint of up to 0.34 acres available for wetland creation.

Natural hydrology for the constructed wetlands is available on-site by realigning the waters currently conveyed in the straight u-shaped ditch (Water A) into a much wider channel area of approximately 0.23 acres (33' x 300'). Design elevation for the newly constructed outlet of waters (conveyed under the proposed pedestrian path) will mimic the flow line of the adjacent, to be abandoned, u-shaped ditch (see Exhibit 6, Wetland

Typical Cross Section). In an effort to increase wetland habitat diversity over a distance of a 100' run, elevation will gradually drop 12" and then rise back up, creating a pooled area.

Wetland design will allow waters to remain on site longer, increasing wetland area, as well as the function and value of existing waters. These waters (originating in the bluffs above the site, but also including some roadside runoff) are mostly ephemeral, but some water does flow year-round. It is anticipated that a minimum 0.05 acres of emergent wetland will form in the creation area, as well as a minimum 0.15 acres of additional coastal wetland (riparian and wet meadow). Wetland soils will be salvaged from the area at the north end of the proposed pedestrian path and stockpiled for use in the restored area.

Additionally, to maximize restoration of the river's riparian buffer (critical habitat for listed salmonids), an additional area of 0.5 acres will be re-planted with locally appropriate riparian species (see Exhibit 7). The wetland mitigation area and the riparian re-vegetation areas are within existing state-owned transportation right of way.

Proposed Compensation Ratios for Created and Restored Habitats

Table 3 (page 10) identifies proposed compensation ratios for both on-site and off-site mitigation for impacts to jurisdictional wetlands associated with the construction of the Mad River Bridges Replacement.

IMPLEMENTATION PLAN

Site Preparation

Wetland Creation

As part of the demolition of the existing northbound bridge, the old roadway conveying northbound traffic off the structure and onto Central Avenue/Route 200 will be abandoned and obliterated. Fill material will be removed to facilitate wetland creation. The extant riparian vegetation, along the u-shaped ditch adjacent to the wetland creation area, will continue to be protected in place through the period of site preparation. Stockpiled wetland soils from the area of the proposed pedestrian path will be spread within the creation area to prepare for planting.

The area will be seeded and mulched and fenced to exclude cattle. The seed mix will be specified to be weed-free and comprised of locally appropriate grasses and/or sterile non-natives. The contractor for the bridges replacement project will be responsible for the wetland creation-site preparation.

Table 3. Compensation Ratios.

Impact by Type	Mitigation On-site	Mitigation Off-site
USACE – perm. wetland impact (riverine emergent persistent – Wetland B) = 0.05 acre	wetland creation @ 1:1 ratio = 0.05 acre	
USACE – temp. wetland impact (riverine emergent persistent – Wetland C) = 0.003 acre	wetland creation @ 1:1 ratio = 0.003 acre	
Additional Coastal - perm. wetland impact (wet meadow - Coastal wet B, N; riparian - Coastal wet I,L) = 0.36 acre		restore/enhance @ 3:1 ratio = 1.1 acre
Additional Coastal - temp. wetland impact (wet meadow - Coastal wet C, riparian - Coastal wet J, K, M) = 0.15 acre		restore/enhance @ 3:1 ratio = 0.45 acre
Additional Coastal – perm. wetland impact (wet meadow – Coastal wet E) = 0.14 acre	wetland creation @ 1:1 ratio = 0.14 acre	
Additional Coastal – temp. wetland impact (wet meadow – Coastal wet F, G) = 0.01 acre	wetland creation @ 1:1 ratio = 0.01 acre	
Total Mitigation Required	(0.053 acre emergent and 0.15 acre wet meadow/riparian) **On-site – 0.20 acre**	**Off-site – 1.6 acre**

Riparian Re-vegetation

If soils in riparian areas are found to be compacted post project construction, they will be ripped to a depth of 18 inches and duff or other commercially available, weed-free, organic material will be incorporated into the soil as an amendment in preparation for planting.

The area will be seeded and mulched and fenced to exclude cattle. The seed mix will be specified to be weed-free and comprised of locally appropriate grasses and/or sterile non-natives. The contractor for the bridges replacement project will be responsible for the riparian re-vegetation site preparation.

Planting Plan

After the proposed bridgework, roadway, and necessary slope excavation have been completed, the new wetland area will be planted and all disturbed riparian areas will be re-vegetated. Plantings in the wetland creation area will transition by species, as dictated by topography, from emergent aquatic species to riparian and upland buffer species. Native plant species identified for use in re-vegetation were observed growing on-site and in wetlands adjacent to the project area (see Table 4 – Planting Palette, page 12).

In an effort to blend with the surrounding landscape the planting design will consist of species grouped in a manner that mimics adjacent natural vegetative cover. Plantings will be spaced an average of three feet on center.

Planting materials will be specified to have been purchased from local native plant nurseries and to have been propagated from an appropriate regional stock. Initial site planting is likely to be accomplished under contract with the California Conservation Corps.

Invasive Species Eradication

In coordination with the planting effort, invasive species will be eradicated, as practicable. Himalayan blackberry was found widely distributed on the project site and is listed as a California Invasive Plant Council (Cal-IPC) List A invasive weed. Consultation with the Humboldt County Agricultural Commission has determined that it would be impracticable to attempt to eradicate Himalayan blackberry at this site, as the species is widespread in the project area. However, effort will be made to retard the presence of Himalayan blackberry within the wetland creation area. Site preparation (removal of fill and grading) will eliminate most of the Himalayan blackberry. Hand tools and monitoring will be utilized throughout the restoration monitoring period to retard the spread of Himalayan blackberry into the mitigation site.

Small populations of periwinkle (*Vinca major*), yellow water iris (*Iris pseudacorus*) and English ivy (*Hedera helix*) were also found within the project limits. These three species are found on the Cal-IPC List B. Periwinkle was found adjacent to Route 200 and along Central Avenue. Yellow iris was found within the wetland at the northeast project quadrant, while English ivy was found within a coast redwood (*Sequoia sempervirens*) stand adjacent to the same wetland area. Some of the iris will be destroyed when the north end of the pedestrian path is constructed. Hand pulling and/or

Table 4. Planting Palette

Species	Habitat Area
Lysichiton americanum skunk cabbage	riverine emergent
Scirpus microcarpus panicled bulrush	riverine emergent
Carex obnupta slough sedge	riverine emergent
Juncus effusus common rush	riverine emergent
Juncus patens bog rush	riparian
Salix lucida ssp. *lasiandra* Pacific shining willow	riparian
Myrica californica Pacific wax myrtle	riparian
Populus balsamifera ssp. *trichocarpa* black cottonwood	riparian
Athyrium filix-femina lady fern	riparian
Lonicera involucrate ssp. *ledebourii* twinberry	riparian
Alnus rubra red alder	riparian
Rubus parviflorus thimbleberry	riparian
Polystichum munitum sword fern	upland buffer
Sambucus racemosa elderberry	upland buffer
Baccharis pilularis coyote brush	upland buffer
Picea sitchensis Sitka spruce	upland buffer
Sequoia sempervirens coast redwood	upland buffer

use of hand tools will be employed to eradicate any remaining iris, as well as the periwinkle and ivy. Invasive plant eradication is likely to be accomplished under contract with the California Conservation Corps.

Some invasive plant rooting material will be present in the salvaged wetland soils. During the monitoring period, hand tools will be utilized to eliminate invasive species from the mitigation site.

Implementation Schedule

Site restoration planting will begin after completion of all bridgework, drainage work and roadway work, in late 2011 or early 2012 (depending on potential winter weather delays, mechanical breakdowns, etc…). It is anticipated that the proposed plantings can be completed within several weeks and that bi-annual monitoring will begin one year after the site restoration is implemented.

SUCCESS CRITERIA AND MONITORING

Success Criteria

The goal of the on-site mitigation plan is to create a total of 0.2 acres of jurisdictional wetland. The plan will restore a formerly filled area to the following habitat types: emergent wetland, riparian, other coastal wetland, and upland buffer. The created wetland will be similar to existing natural wetlands in the project vicinity and will provide the following functions and values: flood flow attenuation and storage; sediment retention and water filtration benefits; contribution to ground water replenishment, and beneficial habitats for birds and small mammals. A second goal is to restore self-sustaining native vegetative cover to both the created wetland and the riparian areas disturbed by project construction.

To be successful, the wetland mitigation must meet the performance standard of creation of a minimum 0.05 acres of riverine emergent persistent habitat. Additionally, within the creation area, a further 0.15 acres must exhibit characteristic(s) of coastal wetland.

Two sets of criteria have been established to evaluate the success of the plan. Intermediate criteria will be used to determine whether the planted habitat is developing on a course that will meet plan goals. Final criteria will determine whether plan goals have actually been achieved. Failure to meet final criteria will require re-evaluation of the site conditions followed by corrective measures.

Progress towards meeting the success criteria will be monitored twice annually, at the beginning and end of the growing season. Overall percent vegetative cover of the

planted sites (created wetland and the riparian re-vegetation areas) will be evaluated. Prior to Caltrans final reporting to jurisdictional agencies, a wetland delineation will be conducted to verify creation acreage.

Intermediate Criteria

Years 1-2 65% absolute cover at the planted site at the end of the growing season.

(Note: In the first two years, after data for the bi-annual monitoring has been collected, any expired woody plantings will be replaced).

Years 3-4 75% absolute cover at the planted site at the end of the growing season.

Final Criteria

Year 5 80% absolute cover at the planted site at the end of the growing season; and creation of a minimum 0.05 acres riverine emergent persistent wetland habitat, as well as an additional 0.15 acres of coastal wetland.

(Note: Final success criteria will not be considered to have been met until a minimum three-year period with no remedial actions has been achieved (excluding invasive plant abatement activities].)

Monitoring

Methods
Evaluation of percent vegetative aerial cover will utilize one of the following methods: quadrat sampling; line-intercept sampling, or as the wetland creation area is small, visual estimation of percent cover. Percent vegetative cover will be further characterized as to canopy layer and species.

Final Wetland Delineation
Prior to completion of the final monitoring report, Caltrans will conduct a wetland delineation to quantify created wetland acreage in the mitigation area. The delineation will be done in accordance with the 1987 USACE manual.

Schedule – Planted areas will be monitored twice annually by a Caltrans biologist at the beginning of the growing season (approximately January) and at the end of the growing season (approximately August) for a period of five years. Data from monitoring will be compiled and analyzed to determine if the performance criteria are being met. The final

wetland delineation verifying created wetland acreage (anticipated at the end of monitoring Year 5) is likely to be conducted in early 2016.

Photo Documentation – The biological monitor will establish a minimum of five photo stations within the restoration area to document as-built conditions and successive yearly habitat changes.

MAINTENANCE

In addition to proposed bi-annual biological monitoring, the overall project site will be inspected by Caltrans staff at least twice annually during the growing season for the period of the restoration monitoring to assess the following: presence/absence of invasive species; erosion; general plant population health, vandalism, and browse damage.

MONITORING REPORTS

Due Dates

Results of the monitoring will be submitted to the USACE, the California Coastal Commission (Coastal Commission), the California Department of Fish and Game (DFG) and the State Lands Commission (SLC) annually by December 31st.

As-Built Report

Within 30 days of the completed installation of the mitigation planting and re-vegetation, a report will be sent to the USACE, the Coastal Commission, the DFG and the SLC (collectively Agencies). This report will describe field implementation of the proposed plantings, including any installation problems encountered and resolutions. Site photos of the plantings' implementation will be included in the report.

Annual Reports

Caltrans will monitor the plantings and prepare an annual report for Agency submission which includes the following: Agency file number(s); name(s) of person who prepared report and who performed the monitoring, monitoring dates, methodology, and a data summary. The report will describe the previous year's monitoring results and any corrective actions that were taken, and it will evaluate and summarize the data for the current year compared to previous years. The report will specify if performance criteria are being achieved. Photo documentation will be included. The first annual monitoring report will be submitted after the restoration area has experienced one full growing season.

A wetland delineation will be conducted by Caltrans prior to the final annual report to evaluate the success of the on-site wetland creation goal. To be deemed successful a minimum 0.05 acres USACE jurisdiction wetland and a further minimum 0.15 of additional coastal wetland must be present in the creation area. Results of the delineation will be submitted to the Agencies.

A final report will be submitted to the Agencies at the end of the final monitoring year. The report will evaluate how successful the restoration was with regard to the mitigation and re-vegetation plan goals, performance standard (creation of a minimum 0.05 acres USACE wetland as well as an additional 0.15 acres of coastal wetland) and success criteria. The report will include a summary of all five years of monitoring data.

POTENTIAL CONTINGENCY MEASURES

If the final report indicates that the mitigation and re-vegetation plan has failed to achieve its goals, in part or wholly, based on the plan's final success criteria then the cause of the restoration failure will be identified and rectified through whatever means are considered adequate to meet the plan's goals.

If the restoration-site is not meeting its success criteria due to low plant survival, plants will be replaced during the spring or fall. Transplanting of materials collected on-site, but outside the revegetation effort, may be utilized to facilitate rapid native vegetation recovery. Watering of planted materials is not anticipated for wetland areas but may be utilized in upland plantings during the establishment period.

Early weed control will be implemented until planted materials are well established; hand weeding will be the preferred method of eradication.

COMPLETION OF MITIGATION RESPONSIBILITIES

Completion of the on-site mitigation will be demonstrated upon submittal of the final report to the Agencies, documenting achievement of the plan's success criteria. It is anticipated that the final report will be produced in December of 2016.

LONG-TERM MANAGEMENT

Caltrans will maintain the wetland creation area as an Environmentally Sensitive Area in perpetuity. The area will be designated as an Environmentally Sensitive Area and added to the District 1 Caltrans Maintenance Environmentally Sensitive Area (ESA) database. This database is utilized by the Caltrans Maintenance Department to guide activities within sensitive resource areas. The wetland mitigation area will be identified as to location and resource type and prescribed to have no disturbance activities allowed. The mitigation area will be added to the District 1 ESA database at time of

wetland construction. Fencing to exclude cattle will be maintained by Caltrans in working condition.

The planted riparian areas within state right of way, outside the wetland creation area, will continue to be subject to management under the guidance of the California Environmental Quality Act. Fencing to exclude cattle will be maintained by Caltrans in working condition.

PURPOSE OF CONCEPTUAL COMPENSATORY MITIGATION PLAN

The California Department of Transportation (Caltrans) has acquired an option to buy a 36-acre parcel (hereinafter referred to as the Old Samoa parcel), located between State Route 255 and Old Samoa Road, just west of the city of Arcata, in Humboldt County. This parcel is within the coastal zone. See exhibits 1 and 2.

Caltrans proposes to utilize the Old Samoa parcel to accomplish the off-site wetland mitigation that is necessary to fulfill the permit conditions for the proposed Mad River Bridges Replacement (see Attachment A – Proposed Projects to be Debited at Old Samoa Parcel). Studies sufficient to determine the suitability of this parcel to meet the Caltrans objective are expected to be completed prior to May, 2007. If studies indicate suitability, the parcel will be purchased by Caltrans and a mitigation project will be constructed. The mitigation project could be constructed by late summer/fall of 2008.

If the Old Samoa parcel is developed for mitigation as proposed, it is anticipated that the site would provide mitigation acreage in excess of that needed for the Mad River Bridges project. Excess mitigation acreage will be used to meet the wetland mitigation needs of other Caltrans' projects that are located in the coastal zone and that are within, or in close proximity to, the Humboldt Bay area. Attachment A will be updated as necessary to reflect the remaining wetland acreage available for mitigation use by Caltrans.

It is likely that the Old Samoa parcel currently functions as a seasonal agricultural wetland. A wetland delineation of the parcel has not yet been done, however, it is anticipated that most of the parcel may be considered coastal wetland. Further, some United States Army Corps of Engineers (USACE) jurisdictional wetland is also anticipated to be present.

If the Old Samoa parcel is developed for mitigation, it is anticipated that every three acres of enhanced/restored USACE wetland would be eligible to be counted as one acre of USACE wetland mitigation credit (based on an assumed 3:1 ratio to be credited for successful enhancement activities). Further, each acre of created USACE wetland (creation of three parameter wetland) would be counted as one acre of USACE wetland mitigation credit (assumed 1:1 ratio to be credited for creation).

Regardless of potential USACE wetland credit, it is anticipated that the Old Samoa parcel would provide 36 acres of enhanced coastal wetland resulting in an estimated 12 acres of coastal wetland mitigation credit (coastal wetland credits will be inclusive of any USACE credits that are developed). The estimated 12 acres of coastal wetland credit is based on an assumed 3:1 ratio credited for

successful enhancement. However, if the restoration approach undertaken by Caltrans restores tidal influence (a significant restoration), it is anticipated that each acre of created salt marsh would be eligible to be counted as one acre of coastal wetland credit (an assumed 1:1 ratio to be credited for creation).

If the parcel is developed as a mitigation site, obligatory monitoring reports to resource agencies will be necessary. Prior to completion of a final monitoring report, a final wetland delineation will be performed to quantify and qualify enhanced/restored and/or created wetland acreage in the mitigation area, also ensuring that success criteria have been met. The delineation will be done in accordance with the 1987 USACE manual.

SITE FEASIBILITY

Historic aerial photos from the 1940's reveals a faint signature of the dendritic pattern of estuary slough channel on the Old Samoa parcel (see page 11). However, this parcel has been actively managed for agricultural use for many years and has had fill material placed on it. Current hydrologic sources are fresh water; there is no existing connectivity for saltwater influence. Current land management practices consist of agriculture; haying and grazing. As previously mentioned, the parcel lies within the coastal zone. Information from the Humboldt County Planning Department is that the majority of the parcel is mapped as prime agricultural land.

The Old Samoa parcel partially abuts the California Department of Fish and Game (CDFG) and the City of Arcata (City) joint-proposed McDaniel Slough Wetland Enhancement Project; a project which proposes wetland habitat restoration on approximately 240 acres of CDFG and City owned lands surrounding the McDaniel Slough (Draft EIR March, 2006). (See Exhibit 3.) Proposed restoration at McDaniel Slough includes salt marsh, brackish marsh and freshwater wetland habitats. While the Old Samoa parcel partially abuts the proposed McDaniel Slough project, the parcel is physically separated due to the county owned and maintained Old Samoa Road.

The Old Samoa parcel is proposed to be used as a mitigation site utilizing a freshwater wetland enhancement and restoration approach. The area is currently managed for agricultural production; vegetative cover is dominated by introduced pasture grasses. Channels have been cut perpendicular to the slope to drain excessive water off the site. Hydrology could be retained on site longer by de-commissioning these channels. Retaining existing hydrology on site, thereby creating wetter habitat, would likely preclude the presence of the introduced grasses and restore a predominance of hydrophytic native plants.

As an alternative to the above approach, if the McDaniel Slough Wetland Enhancement is built as proposed, tidal hydrology could potentially be provided to the Old Samoa site (restoring former salt marsh habitat) through construction of a new culvert under Old Samoa Road. This approach would necessarily entail agreements between Caltrans, the County of Humboldt, the CDFG and the City. Also, physical constraints would likely need to be constructed to prevent saltwater intrusion onto adjacent agricultural parcels. Another potential concern could be intrusion of salt water into shallow wells. Future negotiations and site investigations will determine whether this approach is feasible.

Preliminary Investigation

On April 6, 2006, a drive-by assessment of the parcel revealed some standing water along its western and southern edges. Waterfowl were also noted to be utilizing the parcel. Hydrologic sources appeared to include roadside ditches, precipitation and a high water table. A preliminary field review of the parcel (June 6, 2006) indicated that while the predominant vegetative cover consists of introduced pasture grasses, many native hydrophytic species also exist on site.

Current land use management practices of the Old Samoa parcel were discussed with the owner (Cliff DeMello, June 6, 2006). The parcel owner stated that the site is hayed in early summer and then yearling cows are allowed to graze the site throughout winter. (The landowner noted that wet soil conditions preclude the grazing of larger animals.) Vegetation is then allowed to recover through spring, without grazing, in preparation for the annual hay harvest.

As previously mentioned, a portion of the Old Samoa parcel contains what was once salt marsh habitat. Bayfront levies, tidegates, dikes, Old Samoa Road and filled former slough channels are current impediments to tidal influence at the site. In its natural state the area would likely have been vegetated by native salt-tolerant species such as pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), jaumea (*Jaumea carnosa)* and Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humboldtiensis*).

MITIGATION DESIGN

To help determine site suitability for wetland mitigation as well as specific mitigation design criteria for the Old Samoa parcel, Caltrans will perform the following studies at the site prior to May, 2007: wetland delineation, topographic surveys, and floral and hydrologic studies. Other studies will be performed, as necessary, to establish compliance with the National Environmental Policy Act and the California Environmental Quality Act.

Two conceptual mitigation design approaches, as outlined below, are being considered for use at the Old Samoa parcel. Either of the mitigation approaches will serve to provide habitat linkage.

According to the Draft Environmental Impact Report for the McDaniel Slough Wetland Enhancement Project, the slough enhancement project (an area of approximately 240 acres) will function as a critical habitat link between the City of Arcata Marsh and Wildlife Sanctuary (307 acres) and the CDFG Mad River Slough Wildlife Area (547 acres). Because of the proximity of the Old Samoa parcel to the McDaniel Slough project area, restoration of this 36-acre parcel will further serve to strengthen this connectivity. See Exhibit 3.

Either mitigation approach will provide enhancement of wetland functions and values. However, enhancement of wetland function and value will result in a loss of existing pasture habitat for small mammals and a food source (seeds, small mammals) for avian species.

Mitigation Design - Restore/Enhance Freshwater Wetlands

This approach would manage the existing agricultural parcel such that natural freshwater wetland habitat values are enhanced and restored. This approach would restore and enhance up to 36 acres of habitat currently managed as agricultural wetland. Habitat types to be enhanced include wetland types ranging from USACE jurisdictional to less-than-three-parameter coastal wetlands, and includes upland buffer. Functions and values to be enhanced through this wetland restoration approach include groundwater recharge and discharge (water will be retained on land longer prior to outlet in bay), increased flood flow attenuation, and increased sediment/toxicant retention.

Existing artificial drainage channels, which function to move water off the site, would be de-commissioned. Sod and soil (if studies indicate hydric soil as present) would be salvaged from the drainage channels in preparation for filling them. Select fill material would then be placed in the excavated channels and salvaged wetland soil would be redistributed. Finally, the salvaged sod would be placed and set. Filled drainage channels would continue to support wetland function. Retaining hydrology on site by filling artificial drainages, thus creating wetter habitat, is likely to preclude the presence of introduced pasture grasses; thereby restoring a predominance of hydrophytic native plants.

Additional excavation and grading could be utilized at the site if the creation of extensive acreage of freshwater marsh is of interest to jurisdictional agencies. On-site hydrology is presumed sufficient to support this type of wetland creation. The

marsh edge could be planted with willow (*Salix* sp.) and other riparian vegetation to further diversify habitats at the site.

State transportation right-of-way along State Route 255 would be utilized to help create an upland buffer. Invasive plants would be eradicated as practicable and native, shrubby upland plants and grasses would be established.

It is estimated that the cost to construct this mitigation approach (restore/enhance freshwater wetland) would be roughly $250,000 plus parcel acquisition costs. Funding for the mitigation project would be incorporated into project funding for the Mad River Bridges Replacement as well as other Caltrans' projects in need of wetland mitigation that are located in the coastal zone, within, or in close proximity to, the Humboldt Bay area.

Mitigation Success and Monitoring Criteria

For this approach to be successful (restore/enhance freshwater wetland) the wetland mitigation project must meet the goal of restoring a predominance of native hydrophytic vegetative cover to the site. Upon project design, a monitoring method will be selected that will best evaluate success criteria.

Mitigation Design - Restore Tidal Influence/Salt Marsh Creation

This approach would restore tidal influence to some or all of the parcel. This approach would restore and enhance up to 36 acres of agricultural wetland and would include actual creation of salt marsh. Habitat types to be restored include salt marsh, brackish marsh, freshwater wetland types ranging from USACE jurisdictional to less-than-three-parameter coastal wetlands, and upland buffer.

Functions and values to be enhanced through this wetland restoration approach include groundwater recharge and discharge (water will be retained on land longer prior to outlet in bay), increased flood-flow attenuation, and increased sediment/toxicant retention. Further, this approach which allows for creation of both salt and brackish marsh habitat, may create critical habitat for federally threatened and endangered species (salmonids [*Oncorhychus* spp.] and tidewater goby [*Eucylogobius newberryi*]) as well as potentially creating habitat for the following rare plant species: Humboldt Bay owl's clover, Point Reyes birds-beak (*Cordylanthus maritimus* ssp. *palustris*), and Lyngbye's sedge (*Carex lyngbyei*).

This approach is contingent upon successful execution of the proposed McDaniel Slough Restoration Project (which proposes to restore tidal influence to approximately 200 acres). The slough restoration project includes construction of levees at its project boundaries to contain tidal influence. To facilitate tidal influence at the Old Samoa parcel, in addition to successful execution of the

slough project itself, agreements would be needed between Caltrans and the CDFG, the City, and the County of Humboldt in order to construct a culvert that would allow water to pass both under a proposed levee (proposed for construction as part of McDaniel Slough project) as well as under Old Samoa Road. Approximate length of the culvert could reach 130 feet (includes approximate 90 foot width of proposed levee footprint). Depending on grade and flow line, construction of a culvert under Old Samoa Road could entail a raise in grade for the roadway. Construction of a culvert would create a hydraulic connection between restored slough channel on the CDFG/City property and former slough channel on the Old Samoa parcel.

Excavation and contouring of former slough channel at the Old Samoa parcel would also be necessary. Further, it may be necessary to construct a levee to prevent saltwater intrusion onto adjacent agricultural properties. Construction of a levee would require fill on some portion of the existing agricultural wetlands at the site. It is anticipated construction of a levee (fill) on the Old Samoa parcel, as part of a salt marsh creation, is likely to be viewed as self-mitigating (due to the enhanced function and value of salt marsh versus the existing agricultural wetland).

Existing artificial drainage channels, which function to move water off the site, would be de-commissioned. Sod and wetland soil would be salvaged from the drainage channels in preparation for filling them. Select fill material would then be placed in the excavated channels and salvaged wetland soil would be redistributed. Finally, the salvaged sod would be placed and set. Filled drainage channels would continue to support wetland function. Greater retention of freshwater on site, in addition to the proposed saltwater influence, is likely to preclude the presence of the introduced pasture grasses and restore a predominance of hydrophytic native plants.

State transportation right-of-way along State Route 255 would be utilized to help create an upland buffer. Invasive plants would be eradicated as practicable and native, shrubby upland plants and grasses would be established.

It is estimated that the cost to construct this mitigation approach (restore tidal influence/salt marsh creation) would be roughly $500,000 plus parcel acquisition costs. Funding for the mitigation project would be incorporated into project funding for the Mad River Bridges Replacement as well as other Caltrans' projects in need of wetland mitigation that are located in the coastal zone, within, or in near vicinity to, the Humboldt Bay area.

Mitigation Success and Monitoring Criteria

For this approach to be successful (restore tidal influence/create salt marsh) the wetland mitigation project must meet the goal of restoring tidal influence to some or all of the parcel as well as restoring a predominance of native hydrophytic vegetative cover to the site. Upon project design, a monitoring method will be selected that will best evaluate success criteria.

IMPLEMENTATION, TIME SCHEDULE

Caltrans will seek to develop an interagency or cooperative agreement that would include the construction of the Old Samoa parcel to meet Caltrans permitting (mitigation) needs, as well as transfer title of the property and all monitoring and management responsibilities of the mitigation site. Alternatively, Caltrans could direct the mitigation construction itself and retain title of and responsibility for the mitigation parcel.

Studies to determine the suitability of the Old Samoa parcel to meet Caltrans mitigation needs are expected to be completed prior to May, 2007. It is believed that the mitigation project could be constructed by late summer/fall of 2008.

LONG-TERM MANAGEMENT

Caltrans will seek to develop an agreement with a secondary entity to transfer fee title of the mitigation site as well as all management in perpetuity responsibilities. Potential parties to hold title include the City of Arcata, the CDFG, the California Coastal Conservancy and others. However, Caltrans may retain ownership of the mitigation site and maintain it as a wetland in perpetuity. The area would be designated as an Environmentally Sensitive Area and added to the District 1 Caltrans Maintenance Environmentally Sensitive Area (ESA) database. This database is utilized by Caltrans Maintenance to guide activities within sensitive resource areas. The wetland mitigation area would be identified as to location and resource type and prescribed to have no disturbance activities allowed. The mitigation area would be specified to be added to the ESA database at time of wetland construction.